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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,460	12/08/2003	Aaron G. Arellano	02-0466.93	2907

7590 04/07/2006  
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EXAMINER

WONG, TINA MEI SENG

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/730,460		ARELLANO, AARON G.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Tina M. Wong		2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 March 2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.**

**Patent 6,370,293 to Emmerich et al in view of U.S. Patent 6,567,600 to Yoshida.**

In regards to claims 1, 6, 14 and 21, Emmerich et al discloses a flexible optical circuit comprising a length of optical fiber secured to a partially flexible substrate. But Emmerich et al fails to specifically disclose the substrate to comprise a heating element to maintain a constant temperature. However, Yoshida et al also discloses optical fibers secured to an optical substrate and further discloses the substrate to include thin plates capable of heating and cooling any component in order to keep the substrate at a constant temperature. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have included a heating element in the flexible circuit in the substrate, since it would be desirable

Art Unit: 2874

to maintain the circuit at a constant temperature in order to prevent the circuit from operating at a lower standard due to temperature changes, such as overheating. Furthermore, although Emmerich et al fails to specifically disclose a length of pre-fabricated optical fiber, Emmerich et al would need to decide a length of fiber to be formed on the substrate. Additionally, Emmerich et al discloses the fiber to be secured to the substrate and therefore must be pre-fabricated in order to be secured to the substrate. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a length of pre-fabricated optical fiber.

In regards to claims 2-5, 17, 22-25 and 28-31, although Emmerich et al fails to specifically disclose temperature sensors, such as a thermistor, thermocouple or a resistance temperature detector, a sensor would have been obvious at the time the invention was made to a person having ordinary skill in the art in order to the heating elements to determine if the circuit needs to be cooled or heated to maintain a constant temperature. Furthermore, Yoshida discloses an example of a temperature sensor to be a thermistor temperature sensor.

In regards to claim 10, Emmerich et al and Yoshida fail to specifically disclose a temperature sensor embedded within the heating element. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have embedded the sensor within the heating element since the heating element relies on the sensor to know whether the circuit needs to be cooled or heated in order to maintain a preferable constant temperature.

In regard to claims 7-9, 11-13, 15-16, 18-20 and 26-27, Emmerich et al discloses multiple optical fibers to be secured to a first and second surface of the substrate.

***Response to Arguments***

Applicant's arguments with respect to claim 1-31, received 21 March 2006 have been considered but are moot in view of the new ground(s) of rejection.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

***Inventorship***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TMW



SUNG PAK  
PRIMARY EXAMINER